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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re application of: COURTNEY

Appl. No.: 09/903,549

Filed: July 13, 2001

For: Veneer Face Plywood Flooring and Methods
of Making Same

Art Unit: 1734

Examiner:
Gray, Linda Lamey

Attr. Docket: 0223-0001US

DECLARATION UNDER 37 C.F.R. 1.132

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

1. I, Joseph Torrey, am a citizen of the United States and reside at 122 Brookwood Drive Vicksburg, MS 39183.
2. I am an employee of Anderson-Tully Engineered Wood, L.L.C. (ATEW) and have been employed by ATEW for 3 years and 9 months.
3. I have been employed or otherwise worked in the lumber industry for 16 years and have worked with plywood construction for 10 years.
4. I have read and am familiar with the Office Action dated December 16, 2002 and the references cited therein. I have also read and understand the contents of this declaration.
5. I have read and am completely familiar with the invention disclosed and claimed in the US Patent application No. 09/503,549 (the '549 application) by Courtney, entitled "Veneer Face Plywood Flooring and Methods of Making Same.
6. I am personally familiar with the method of manufacture of the invention claimed in the '549 application.
7. I have read and am familiar with the invention disclosed and claimed in US Patent 4,655,860 by Tellman et al (Tellman).

8. In my experienced opinion, the process disclosed and claimed by Tellman is completely different than the process disclosed in the '549 application, and that one of skill in the art would not consider the teachings of Tellman in attempting to create a engineered wood floor product that was as strong as solid wood but more flexible and more dimensionally stable. The problem being solved by the present invention is based on the instability of solid wood flooring due to the internal stresses from varying grain patterns and drying stresses. In solid wood flooring, the stresses reveal themselves as bowing or end-lift from face to back and crook from side to side. The problem behind Tellman is based upon entirely different circumstances dealing with making cheaper, less dense, plywood veneer in mind not flooring. In fact, one of skill in the art would believe that Tellman teaches away from the present invention by showing that plywood made by the Tellman process has significantly reduced strength compared to plywood made without expanded veneer or compared with solid wood.

9. Tellman describes a process for expanding green (wet) plywood veneer sheets for the sole purpose of creating a plywood having less wood in the core inner plies in order to save wood and therefore lower costs. It also provides for a plywood product that is lighter than plywood made without expanded inner ply sheets. In my opinion, the problem with Tellman is that the plywood constructed in this manner is less elastic and weaker than standard plywood. Although Tellman states that this process could be used on dry veneer sheets, in my opinion, this would not be done. In my opinion, the expansions that are disclosed in Tellman could only be achieved with the use of green veneer sheets having very high moisture content, to allow the wood fibers to bend. Dry veneer sheets having 6 - 8% moisture, like the '549 application, would split or crack using that process. Furthermore, Tellman discusses cutting the veneer sheets using thin blades of $1/16^{\text{th}}$ of an inch (0.0625 in.) and then pressing the sheets with enough pressure that a small amount of crushing of the ends of the sheets is achieved. Both Tellman and the present invention are similar only in the fact that the veneer sheets are bonded together.

10. In contrast, the '549 application discloses the piercing of the cut veneer sheets only after they have been dried to a moisture content of 6 - 8%. This piercing provides two benefits: a) it provides stress relief of the grain of the veneer sheet; and b) allows multiple channels for glue to travel between the veneer sheets of the core inner layer. This provides two unexpected properties: 1) the plywood boards have about the same strength as solid hardwood boards; and 2) they are more flexible compared with solid hardwood flooring. This allows the boards to be glued to the floor instead of the normal nailing procedure, which is something one cannot do with ordinary hardwood floorboards. The '549 process is further distinguished from Tellman by virtue of the fact that the piercing dimensions of the veneer sheets of the core inner layer are much larger than the slices made by Tellman. The piercing dimensions are approximately 0.375 X 0.125" and spaced about 0.375" axially and 0.75" transversely, resulting in fewer and larger holes (3x larger) in the sheets. The large piercings allow the glue from the wet sheets to travel from one side of the sheet to the other providing an equilibrium of glue during the pre-press process and providing a vertical layer of glue that gives the added

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and unexpected property of additional bonding strength to the plies. Additionally, the pierced veneer sheets are sent only once through rollers which apply only enough pressure to separate the slots and reduce the elastic properties of the sheets. The rollers do not use sufficient pressure to crush the ends of the sheets or expand the sheets laterally (in reference to the axis of the grain) as disclosed in Tellman.

11. In my opinion, it would not have been apparent to one of skill in the art at the time the '549 application was filed, that creating a wood board using the process disclosed in the '549 application would have resulted in a product that was as strong as solid hardwood, but more flexible and more dimensionally stable. This is especially true when using a lower quality wood like gum, which one of skill in the art would have thought to be susceptible to warping or twisting and not dimensionally stable enough for such a use.

12. I further declare that all statements made herein are of my own knowledge are true and that all statements made in information and belief are believed to be true; and further that the statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above captioned patent application or any patent issued therefrom.

Respectfully submitted,

Date: 5-9-03


Signature: Joseph Torrey